

WHAT IS CLAIMED IS:

1. An endoscope apparatus comprising:

an endoscope having an insertion unit inserted into a body cavity and an image pickup device for picking up an image of a portion to be observed;

a wireless transmitter, provided in an image information signal transmission path in said endoscope, for transmitting said image information signal by wireless;

an information display portion provided in said endoscope to display frequency information of a transmission frequency of said wireless transmitter;

an information reading device for reading said frequency information of said information display portion;

a wireless receiver for receiving said image information signal transmitted from said wireless transmitter;

a reception frequency setting unit for tuning a reception frequency of said wireless receiver to the transmission frequency of the image information signal transmitted from the wireless transmitter by the frequency information read by said information reading device; and

an image display device for processing said image information signal received by said wireless receiver to display an image.

2. An endoscope apparatus according to claim 1, wherein said information display portion is a bar code, and said information reading device is a bar code reader which reads said bar code.

3. An endoscope apparatus according to claim 1, wherein said

endoscope is an electronic endoscope in which said image pickup device having an image pickup element is built.

4. An endoscope apparatus according to claim 1, wherein said endoscope is composed of an optical endoscope said optical endoscope having said image pickup device built therein, and a television camera mounted thereto.

5. An endoscope apparatus comprising:

first and second endoscopes, each having an insertion unit inserted into a body cavity and an image pickup device for picking up an image of a portion to be observed;

first and second wireless transmitters which are provided respectively in said first and second endoscopes to transmit pieces of image information respectively picked up by said first and second endoscopes and which transmit image information signals corresponding to said pieces of image information respectively at different transmission frequencies;

first and second information display portions which are provided respectively in said first and second endoscopes and which respectively display pieces of frequency information of the transmission frequencies of said first and second wireless transmitters;

information reading device which can read the pieces of frequency information of said first and second display portions;

a wireless receiver which can receive said image information signals transmitted respectively from said first and second wireless transmitters;

a reception frequency setting unit for tuning the reception

frequency of said wireless receiver to the transmission frequencies of the respective image information signals transmitted from said first and second wireless transmitters by the pieces of frequency information read by said information reading device; and

an image display device for processing said image information signal transmitted from said first or second wireless transmitter and received by said wireless receiver to display an image.

6. An endoscope apparatus according to claim 5, wherein said information display portion is a bar code, and said information reading device is a bar code reader which reads said bar code.

7. An endoscope apparatus according to claim 5, wherein said endoscope is an electronic endoscope in which said image pickup device having an image pickup element is built.

8. An endoscope apparatus according to claim 5, wherein said endoscope is composed of an optical endoscope, said optical endoscope having said image pickup device built therein and a television camera mounted thereto.

9. An endoscope apparatus according to claim 5, wherein said image display device can simultaneously display a plurality of images.

10. An endoscope apparatus according to claim 5, wherein said wireless receiver has a detection device for detecting a frequency of a received signal.

11. An endoscope apparatus according to claim 10, wherein said wireless receiver further has a decision device for deciding

whether a frequency detected by said detection device is equal to a frequency of frequency information read by said information reading device or not.

12. An endoscope apparatus according to claim 10, wherein a tuning operation of said reception frequency setting unit is controlled such that it is decided whether a frequency detected by said detection device is equal to a frequency read by said information reading device or not, and if both the frequencies are not equal to each other, only the frequency read by said information reading device is received.

13. An endoscope apparatus according to claim 12, wherein if both the frequencies are not equal to each other, only a frequency component read by said information reading device is selectively amplified.

14. An endoscope apparatus according to claim 12, wherein if both the frequencies are not equal to each other, only a band component of the frequency read by said information reading device is selectively band-passed.

15. An endoscope apparatus according to claim 5, wherein said wireless receiver can receive respective image information signals while simultaneously tuning the frequencies to the transmission frequencies of the plurality of image information signals.

16. An endoscope apparatus comprising:

first and second endoscopes, each having an insertion unit inserted into a body cavity and an image pickup device for picking up an image of a portion to be observed;

first and second wireless transmitters which are provided respectively in said first and second endoscopes to transmit pieces of image information respectively picked up by said first and second endoscopes and which transmit first and second image information signals corresponding to said pieces of image information respectively at different transmission frequencies;

first and second information display portions which are provided respectively in said first and second endoscopes and which respectively display pieces of frequency information of the transmission frequencies of said first and second wireless transmitters;

information reading device which can read the pieces of frequency information of said first and second information display portions;

a wireless receiver which can simultaneously receive said first and second image information signals respectively transmitted from said first and second wireless transmitters;

a reception frequency setting unit for tuning the reception frequency of said wireless receiver to the transmission frequencies of said first and second image information signals respectively transmitted from said first and second wireless transmitters by the pieces of frequency information read by said information reading device; and

an image display device for processing said first and second image information signals received by said wireless receiver to display respective images.

17. An endoscope apparatus according to claim 16, wherein said information display portion is a bar code, and said information reading device is a bar code reader which reads said bar code.

18. An endoscope apparatus according to claim 16, wherein said endoscope is an electronic endoscope in which said image pickup device having an image pickup element is built.

19. An endoscope apparatus according to claim 16, wherein said endoscope is composed of an optical endoscope, said optical endoscope having said image pickup device built therein and a television camera mounted thereto.

20. An endoscope apparatus according to claim 16, wherein said image display device simultaneously displays a plurality of images.

21. An endoscope apparatus according to claim 16, wherein said wireless receiver has a detection device for detecting a frequency of a received signal, and a decision device for deciding whether a frequency of a signal received by said detection device is equal to a frequency read by said information reading device or not.

22. An endoscope apparatus according to claim 21, wherein if both the frequencies are not equal to each other, only the frequency read by the information reading device is selectively amplified.

23. An endoscope apparatus according to claim 21, wherein if both the frequencies are not equal to each other, said wireless receiver limits a reception band such that only the frequency read by said information reading device is passed.

24. An endoscope apparatus comprising:

- an endoscope main body having an insertion unit inserted into a body cavity;

- an image pickup element, provided in the insertion unit, for picking up an image of a portion to be observed;

- a display device for displaying an image obtained by said image pickup element;

- a transmitter for transmitting said image information signal into a path extending from said image pickup element for carrying an image information signal obtained by said image pickup element to said display device;

- a receiver for receiving the image information signal transmitted from said transmitter;

- a bar code provided to said endoscope to display a transmission frequency of said transmitter; and

- a bar code reader for reading said bar code to recognize a reception frequency of said receiver.

25. A plurality of endoscopes constituting an endoscope apparatus, each comprising:

- an insertion unit inserted into a body cavity and an image pickup element, provided to said insertion unit, for picking up an image of a portion to be observed;

- a transmitter for transmitting an image information signal into a path extending from said image pickup element for carrying the image information signal obtained by said image pickup element to a display device;

- an antenna for receiving an image information signal

transmitted by another endoscope; and

a setting device for recognizing a frequency of said image information signal transmitted by said another endoscope not to use the frequency.

26. An endoscope apparatus comprising:

an endoscope main body having an insertion unit inserted into a body cavity;

an image pickup element, provided to said insertion unit, for picking up an image of a portion to be observed;

a display device for displaying an image obtained by said image pickup element;

an optical transmitter for optically communicating an image information signal into a path extending from said image pickup element for carrying the image information signal obtained by said image pickup element to said display device;

an optical receiver for receiving the image information signal transmitted from said transmitter; and

a repeating device provided between said optical transmitter and said optical receiver.

27. An endoscope apparatus according to claim 26, wherein said repeating device is an astral lamp.

28. An endoscope apparatus according to claim 26, wherein a plurality of paths are set between said optical transmitter and said optical receiver.

29. An endoscope apparatus comprising:

an insertion unit inserted into a body cavity;

an endoscope having an image pickup element, provided to



said insertion unit, for picking up an image of a portion to be observed;

a wireless transmitter, provided in an image information signal transmission path in said endoscope, for transmitting said image information signal by wireless;

a reception circuit, provided in said endoscope, for receiving a designation signal from a wireless receiver for receiving said image information signal;

a reception frequency setting unit for tuning a reception frequency of said wireless receiver to a transmission frequency of the image information signal transmitted by said wireless transmitter;

a transmission circuit, provided in said wireless receiver, for transmitting a designation signal to said wireless transmitter; and

an image display device for processing the image information signal received by said wireless receiver to display an image.

30. An endoscope apparatus according to claim 29, wherein said wireless transmitter performs signal amplification of the image information signal by the designation signal from said wireless receiver.

31. A medical system comprising:

a medical image pickup device for picking up an image of a portion to be observed;

a wireless transmitter, provided in an image information signal transmission path of said medical image pickup device,

for transmitting the image information signal by wireless;  
a display unit provided in said medical image pickup device  
to display a transmission frequency of said wireless transmitter;  
an information reading device for reading display  
information of said display unit;  
a wireless receiver for receiving the image information  
signal transmitted from said wireless transmitter;  
a reception frequency setting unit for tuning the reception  
frequency of said wireless receiver to the transmission frequency  
of the image information signal transmitted from said wireless  
transmitter by information read by said information reading  
device; and  
an image display device for processing the image  
information signal received by said wireless receiver to display  
an image.

32. A medical system according to claim 31, wherein said medical  
image pickup device is an endoscope having an image pickup element  
at a distal end thereof.

33. A medical system according to claim 31, wherein said medical  
image pickup device is a television camera mounted to an optical  
endoscope.

34. A medical system according to claim 31, wherein said medical  
image pickup device is a television camera mounted to a microscope  
for operation.